MISSISSIPPI ONE-CALL SYSTEM
FEASIBILITY STUDY

PREPARED FOR:

MDEQ
P.O. BOX 10385
JACKSON, MS 39289-0385

MISSISSIPPI DEPARTMENT OF
ENVIRONMENTAL QUALITY

PREPARED BY:

FTN/WLBE - A JOINT VENTURE
6508 DOGWOOD VIEW PARKWAY, SUITE A
JACKSON, MS 39213

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1.0 INTRODUCTION

FTN Associates, Ltd. and W.L. Burle Engineers, P.A., (FTN/WLBE), a Joint Venture was retained by the Mississippi Department of Environmental Quality (MDEQ) Office of Pollution Control, Groundwater Assessment and Remediation Division (GARD) on November 10, 2004 to develop a One Response Program for the State of Mississippi. Pursuant to Task 2.a. of this agreement, FTN/WLBE developed a conceptual model for incorporating institutional and engineering controls (IECs) into the Mississippi One-Call System (MOCS). The conceptual model was presented to GARD on January 20, 2005 and was reviewed by GARD before being returned to FTN/WLBE with comments. Pursuant to Tasks 2.B and 2.C of the November 10, 2004 agreement, FTN/WLBE developed a Feasibility Study Report and Cost Analysis for incorporating and managing IECs within MOCS.

1.1 Purpose

MDEQ through GARD received a grant from the United States Environmental Protection Agency (EPA) under the authority of the Small Business Liability Relief and Brownfield Revitalization Act (Brownfield Amendments). The Act amends the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) by adding Section 128(a). Section 128(a) authorizes a $50 million grant program to establish and enhance state and tribal response programs. Generally, these response programs address the assessment, cleanup and redevelopment of brownfield sites and other contaminated sites.

To be eligible to receive (and continue to receive) funding under CERCLA Section 128(a), a state or Indian tribe must demonstrate that their response program includes, or is taking reasonable steps to include, four elements. The four elements are:

1. Timely survey and inventory of brownfield sites in the state or in the tribal land;
2. Oversight and enforcement authorities or other mechanisms or resources;
3. Mechanisms and resources to provide meaningful opportunities for public participation; and
4. Mechanisms for approval of a cleanup plan, and verification and certification that cleanup is complete.

The incorporation of IECs into MOCS is consistent with EPA's vision for an improved response program. The EPA Office of Solid Waste and Emergency Response (OSWER) recognizes that at many environmental cleanups, residual contamination and engineering controls remain after cleanup has been completed. In these situations, legal or administrative tools known as "institutional controls" are often required to limit the use of the site so that contaminated areas or engineering controls are not disturbed. However, the protections provided by

IECs may be jeopardized by major land use changes. Construction activities such as site excavation, well construction, and grading pose a risk of violating existing IECs at remediation sites, and furthermore pose a risk of harm to the health and safety of site excavators, other site personnel, and the public. In December of 2001, OSWER proposed that States consider utilizing their one-call systems, which were established in the 1960s to help excavators identify the location of buried utility lines and protect the public and environment from uncontrolled excavation, to notify the same excavators of existing IECs.

The purpose of Tasks 2.B and 2.C was to compose a Feasibility Study Report and Cost Analysis, for expanding the scope of services provided by MOCS to include GARD environmental considerations, such as contaminated sites with IECs. These tasks are component of a larger collaborative project to develop a One Response Program consistent with Section 128(a) of CERCLA.

1.2 Scope of Services

FTN/WBLE developed the MS One-Call Feasibility Study Report for use in creating new or modifying existing policy, law, or regulations that would allow for MDEQ sites with IECs to be incorporated into MOCS by:

- Using information gained from experience with real estate law,
- Using information gained from interviewing MOCS representatives on the requirements for program participation,
- Reviewing the existing Mississippi Code, Chapter 13 Regulation of Excavations near Underground Utility Facilities for the legal mechanisms of participation in and use of MOCS,
- Reviewing the legal changes and/or additions proposed by other states such as Pennsylvania and California which are seeking to accomplish similar goals of incorporating IECs into their One-Call systems, and
- Incorporating comments and pursuing suggestions from GARD Senior Staff.

FTN/WBLE prepared the One-Call System Cost Analysis including projected fixed and variable future costs associated with incorporating sites with IECs into MOCS by:

- Using information gained from the development of the conceptual model,
- Using information gained from interviewing MOCS representatives on the fee structure for program participation,

- Using information gained from interviewing MDEQ GARD Senior Staff in regard to future staffing needs to meet the projected workloads associated with entering sites with IECs into the MOCS database, and responding to MOCS locate requests in which proposed excavation activities are expected to impact sites with IECs,

- Using information gained from interviewing the MDEQ Complaint Tracking System (CTS) manager in regard to future staffing needs to meet the projected workloads associated with routing MOCS locate requests for sites with IECs to the appropriate regional offices,

- Using information gained from interviewing MDEQ field office managers in regard to their future staffing needs to meet the projected workloads associated with responding to MOCS locate requests for sites with IECs, and

- Using the experience of team members in the principles and practice of cost analysis to present projected fixed and variable future costs information in a clear and concise manner.

2.0 EPA ONE-CALL SYSTEM PILOTS

In December 2001, EPA launched three pilot programs to evaluate the feasibility of expanding the protection provided by existing One-Call systems by incorporating sites that contain residual contamination or engineering controls, into the One-Call systems. Under EPA's One-Call pilot strategy, EPA "[hoped] to prevent excavation, grading, well drilling, and other future site activities from contacting contaminated soil, groundwater, or [engineering controls]. In turn, EPA [hoped] to reduce the risk of harm to the health and safety of site excavators, other site personnel, and the public." The three pilot program demonstration areas were Pennsylvania, Wisconsin, and New York.

FTN/WLBE reviewed each of the programs for potential procedural guidelines and to identify potential obstacles MDEQ and MOCS may face in implementing their own integrated system.

2.1 EPA – Pennsylvania Department of Environmental Protection One-Call Pilot

The Pennsylvania Department of Environmental Protection (PADEP) and Pennsylvania One-Call System (POCS) pilot focused on evaluating the feasibility and impact of regulatory changes that would expand POCS legislation to expressly cover subsurface contamination, or otherwise require residually contaminated sites to join POCS.

During the 2003-2004 congressional year, PADEP drafted language that was intended to incorporate engineering controls into the Pennsylvania One-Call legislation. PADEP proposed to add "engineering control" to the definition of "facility" and include the following definition for engineering control:

> "Engineering Controls." Man-made controls designed to isolate, contain in the ground or remediate waste or materials hazardous to human health and the environment. The term includes hazardous, municipal, residual and radioactive waste landfills; vaults, repositories, in-situ stabilization; caps on residual contamination; groundwater pump and treat systems, leachate collection systems and monitoring and containment systems."

Unfortunately, agreement could not be reached between PADEP and POCS, and although an amendment to the One-Call legislation was passed (House Bill 2384), it did not include the changes recommended by PADEP. Had the engineering controls language been included, PADEP planned to incorporate language into the State's environmental legislation, 25 PA Code 250 that would have required owners/operators using engineering controls to provide proof of membership in POCS as a pre-requisite to securing approval for cleanup completion.

Pennsylvania environmental legislation (25 PA Code 250) uses the following definitions for institutional and engineering controls:

> "Institutional controls." A measure undertaken to limit or prohibit certain activities that may interfere with the integrity of a remedial action or result in exposure to regulated substances at a site. These include, but are not limited to, fencing or restrictions on the future use of the site.
>
> "Engineering controls." Remedial actions directed exclusively toward containing or controlling the migration of regulated substances through the environment. These include, but are not limited to, slurry walls, liner systems, caps, leachate collection systems and groundwater recovery trenches.

Although the PADEP language drafted to amend the POCS legislation included a broader definition of engineering controls, it did not incorporate institutional controls into the system. Instead, PADEP intended to rely upon the Pennsylvania Environmental Covenants Act (House Bill 2226) to enforce institutional controls. The Act would require institutional controls to be recorded in land deeds, and would therefore be binding on future owners. The Act, however, has not yet passed.

Both the One-Call legislation engineering controls amendments and the Pennsylvania Environmental Covenants Act will be reviewed again during the 2005-2006 Congressional Session.

2.2 EPA – Wisconsin Department of Natural Resources One-Call Pilot

The Wisconsin Department of Natural Resources (WDNR) and the Wisconsin One-Call service, Diggers Hotline pilot focused on the feasibility of incorporating properties where groundwater impacts remained into the Diggers Hotline system. WDNR was interested in flagging sites where institutional controls limited potable well construction. In early 2002, WDNR became a member of the Diggers Hotline and placed closed sites listed on the Wisconsin GIS registry into the Digger's Hotline database. WDNR intended to require well modifications if a well driller proposed to construct a well at a contaminated site.

The Digger's Hotline used a PLSS Grid database (Township, Range, and Section) to locate sites within the system. Unfortunately, the PLSS Grid database was unable to provide a high enough level of detail to precisely locate WDNR sites. This resulted in the issuance of a high percentage of false tickets to WDNR, and excessive costs without any environmental benefit. Digger's Hotline does allow for reimbursement of false tickets, however according to WDNR the process was complicated and untimely.

In an attempt to reduce the number of false tickets, WDNR asked the Digger's Hotline to modify its standard list of questions to only flag WDNR sites where groundwater wells were being installed, however the change was not made. Digger's Hotline also denied WDNR's suggestion to switch to a spatial database, which would greatly reduce the number of false tickets issued to member firms.

WDNR participated in the Digger's Hotline for over two years but has since ended the relationship. WDNR now distributes contaminated groundwater site data and location information to well drillers in a CD format that is updated every three months.

2.3 EPA- New York Department of Environmental Conservation One- Call Pilot

The New York State Department of Environmental Conservation (NYSDEC) and Dig Safely New York (DSNY) pilot involved the evaluation of the existing NYSDEC Institutional Control Tracking System and its compatibility with the DSNY system. Prior to actually incorporating the NYSDEC institutional controls database into the DSNY database, NYSDEC decided to reformat the Institutional Control Tracking System to a web-based database, which is not yet complete.

3.0 EXISTING MISSISSIPPI ONE-CALL PROGRAM

3.1 Legislation

MOCS is a service through which a person can notify the operator(s) of underground facilities of plans to excavate and request marking of facilities. The legislation that established the MOCS is found in Title 77 - *Public Utilities and*

Carriers, Chapter 13 – *Regulation of Excavations near Underground Facilities* of the Mississippi Code. The complete text of the legislation is provided in Appendix D. A summary of the legislation, by section, is provided below.

§77-13-1. Legislative Intent.

This section states "it is the intent of the legislature to protect underground utility facilities and other underground facilities from destruction or damage, in order to prevent death of or injury to persons, property damage to public and private property, and loss or interruption of essential utility services to the general public."

§ 77-13-3. Definitions.

The most relevant definitions are provided below:

77-13-3 (a) "Excavate or excavation" shall mean any operation in which earth, rock or other material or mass of material on or below the ground is moved or otherwise displaced by any means, except: (i) the tilling of the soil less than twenty-four (24) inches in depth for agricultural purposes; or (ii) an operation in which earth, rock or other material or mass of material on or below the ground is moved or otherwise displaced to a depth of less than twelve (12) inches on private property by the property owner without the use of mechanical excavating equipment; or (iii) an operation in which earth, rock or other material or mass of material on or below the ground is moved or otherwise displaced without the use of mechanical excavating equipment to a depth of less than twelve (12) inches on private property by an excavator who is not the property owner, except when such excavation is in a clearly marked underground facility right of way. The term "excavate" shall include, but not be limited to, the operations of demolition, blasting, grading, land leveling, trenching, digging, ditching, drilling, augering, tunneling, scraping, cable or pipe plowing, driving, jacking, wrecking, razing, rending, moving or removing any structure or other material or mass of material on or below the ground.

77-13-3 (d) "Underground facility" shall mean any underground utility lines and other items which shall be buried or placed below ground or submerged for use in connection with underground utility lines and including but not be limited to pipes, sewers, conduits, cables, valves, lines, wires, manholes, vaults, attachments, and those portions of poles below the ground.

77-13-3 (f) "Damage" shall mean the substantial weakening of structural or lateral support of underground utility lines and underground facilities, penetration or destruction of any protective coating, housing or other protective devices of an underground utility line or underground facility, and the partial or complete severance of any underground utility line or underground facility, but does not include any operator's abandoned facility.

77-13-3 (k) "Mark" shall mean the use of stakes, paint, or other clearly identifiable materials to show the field location of underground facilities in accordance with the current color code standard of the American Public Works Association, or the uncovering or exposing of underground facilities so that the excavator may readily see the location of same, or the pointing out to the excavator of certain aboveground facilities such as, but not limited to, manhole covers, valve boxes and pipe and cable risers, which indicate the location of underground facilities.

77-13-3 (q) "Approximate location" of underground utility lines or underground facilities shall mean information about an operator's underground utility lines or underground facilities which is provided to a person by an operator and must be accurate within eighteen (18) inches measured horizontally from the outside edge of each side such operator's facility, or a strip of land eighteen (18) inches either side of the operator's field mark, or the marked width of the facility or line plus eighteen (18) inches on each side of the marked width of the facility or line.

§ 77-13-5. Excavator's investigation of site; notice to utility of planned excavation.

This section establishes the requirement that excavators must inform himself/herself of the presence and location of any underground utility lines and underground facilities in or near the area where excavation is to be conducted; and plan and conduct the excavation to avoid or minimize interference with or damage to such lines and facilities.

More importantly, the section states that no person shall engage in excavation of any kind before meeting the notification requirements of the chapter. An excavator must provide not less than two (2) and not more than ten (10) working days' advance written, electronic or telephonic notice of the commencement, extent, location and duration of the excavation work to MOCS, and any nonmember operator(s) of any underground utility lines or underground facilities in and near the excavation area, so that MOCS member operator(s) and any nonmember operator(s) may locate and mark the location of underground utility lines and underground facilities in the excavation area.

The legislation states that the markings provided by member and nonmember operators shall only be valid for a period of ten (10) working days from the proposed starting date provided to the nonmember operator(s) or MOCS. The person responsible for the excavation project is required to renew the notification with MOCS and any nonmember operator(s) at least two (2) days prior to the expiration date and shall continue to renew such notification in the same manner throughout the duration of the excavation. The renewal notice is valid for a period of ten (10) working days from the date of the expiration of the prior notification.

§ 77-13-7. Notification of damaged lines.

This section describes the procedures excavators must follow should their excavation activities result in damage to an underground utility line or underground facility. Excavators are required immediately upon discovery of such damage to notify MOCS or the operator of the damaged line or facility. In some cases, the excavator must take action as reasonably necessary to protect persons and property and to minimize the hazards, until arrival of the operator's personnel and police or fire departments.

§ 77-13-9. Marking location of underground facilities; timeliness.

This section requires that once advance notice of a proposed excavation is provided to operators of utility lines or underground facilities, such persons are required to make an investigation within two (2) working days from the time notice is provided to determine the approximate location of underground utility lines and underground facilities in the area of the proposed excavation.

The operator must mark the approximate line or facility location, or if applicable, advise in writing, telephone, or electronic means that no underground utility lines or underground facilities exist in the excavation area.

In lieu of marking, the operator may request to be present at the site upon commencement of the excavation, so long as the operator complies within two (2) working days of the receipt of the notice.

If an excavator, upon arriving at an excavation site, sees evidence of unmarked underground utility lines or underground facilities or encounters these after excavation has commenced where notice of intent has been made, that excavator must immediately contact MOCS and the nonmember operator(s). All operator(s) thus notified must contact the excavator within four (4) hours and inform the excavator of any of their known underground facilities, active or abandoned, at the site of the excavation.

Table 1 on the following page specifies the designated color code for marking the approximate location of facilities:

Table 1: MOCS Utility/Facility Color Coding Scheme

IDENTIFYING COLOR	UTILITY OR TYPE OF FACILITY
Safety Red	Electric
High Visibility Safety Yellow	Petroleum Product/Hazardous Flammable/Corrosive/Toxic Materials, Product and Steam Lines, Gas or Gaseous Material.
Safety Alert Orange	Telecommunications (including fiber optic) and CATV
Safety Precaution Blue	Water and Irrigation Slurry Lines
Safety Green	Sewer and Drain Lines
High Visibility Pink	Temporary Survey Markings
White	Proposed Excavation

§ 77-13-11. Exceptions to advance notice requirement.

This section exempts excavators from the advance notice requirement at times of emergency involving danger to life, health or property or a customer service outage. However, excavators are still required to take all necessary and reasonable precautions to avoid or minimize interference with or damage to existing underground utility lines and underground facilities, and are expected to notify facility operators as promptly as reasonably possible of the emergency excavation.

§ 77-13-13. Advance notice of relieving excavator of certain liabilities.

Provided that an excavator gives notice of an excavation in accordance with Section 77-13-5, and performs the excavation in a careful and prudent manner, he/she is relieved of all liability to a utility should the advance notice be ignored or the location information provided be inaccurate.

§ 77-13-15. Notice to one-call system effective as to all members.

Information provided to the MOCS in regard to proposed excavation activities is disseminated to all members of the system in the vicinity of the proposed excavation site.

§ 77-13-17. Operator responsibilities.

This section outlines the responsibilities of operators as well as MOCS. The most relevant paragraphs are provided:

§ 77-13-17 (1) Any operator who fails to follow, abide by or comply with this chapter shall be responsible for the cost or expense the excavator shall incur as a direct result of the failure of the operator to follow, abide by, or comply with the provisions of this chapter.

§ 77-13-17 (8) All member operators shall provide MOCS the following information:

a. A list of counties, cities and towns in which the operator has underground utility lines or underground facilities in each county.

b. The townships, ranges, sections and quarter sections in each county in which the operator has underground utility lines or underground facilities or for other reasons wish to receive notification of proposed excavation.

c. An update on an annual basis of each operator's underground utility lines or underground facilities for the State of Mississippi.

§ 77-13-19. Enforcement; injunctions.

This final section allows the right to resort to and apply for injunctive relief to enforce compliance with the provisions of the statue.

3.2 Membership Requirements

Based on the legislation presented in the previous section, membership in MOCS is currently open to owners/operators of underground facilities. In order to become a member firm, the owner/operator must complete and submit the membership application (See Appendix A).

The membership application requires the following:

1. To not share, sell or disseminate the One-Call ticket information with any other entity in any form or fashion;

2. To abide by and comply with such rules and regulations as the Board of Directors may adopt, from time to time, for utilization of the statewide Notification Center by members;

3. To abide by and comply with the By-Laws of the Corporation; and

4. To pay promptly the fees prescribed by the MOCS Board of Directors.

Under the existing definitions of "owners', "operators", and "underground facilities", MDEQ does not qualify as a potential MOCS member firm. MOCS manager Jerri Pierce indicated that MDEQ membership would require board approval and she stated that she believes the board would approve the membership of MDEQ. Through discussions with MOCS manager Jerri Pierce and members of GARD staff, it was decided that a Memorandum of Agreement (MOA) could be entered into by MOCS and MDEQ to define "Operator" and "Underground Facility" in a way that would qualify MDEQ as a member firm in MOCS. Once a MOA is agreed to and MOCS Board approval is granted, MDEQ would qualify as a member firm.

3.3 Costs

The cost of membership in MOCS is based on the quantity of locate requests received by a member firm. Member firms are charged per locate message received, with a minimum fee of $200.00 per year. The minimum fee is prorated for those who join later during the calendar year. In 2004, the cost per locate message was $1.41.

3.4 Database

MOCS uses a spatial database to map site locations. The use of a spatial database increases the accuracy of the issuing locate requests, which reduces the amount of false tickets generated as compared to other states that use only PLSS data (section, township and range). Three options are available for members to submit facility location information to MOCS: paper maps, GPS readings or computerized maps.

After a member firm submits facility location information, MOCS enters that information into a spatial database. Then MOCS returns a copy of the mapped facility to the member firm for review. The member firm is expected to make any necessary edits if the facility is not accurately mapped and then return the comments to MOCS. MOCS will make the necessary adjustments and then return to the member firm for review. The process continues in this fashion until the member firm approves the MOCS map of the member firm's facility.

3.5 Locate Procedures

Excavators are required to contact MOCS at least 48 hours before digging is to commence at a site to file a locate request form (See Appendix B: Locate Request Form). A completed Locate Request Form provides information regarding the nature of the dig (beginning work date, duration, type of excavation, doing work for, etc) as well as the location (county, nearest town, address, nearest intersection road, driving directions, etc). With this information, MOCS uses a spatial database to map the location of the dig and flag any facilities of member firms located within 400' (minimum) of the dig location.

MOCS staff then send out the locate request (ticket) to affected member firms. This ticket can be sent via email, phone or fax. The member firm then has 48 hours to visit the site and determine if the excavation will interfere with the firm's underground facilities. The member firm is required to notify the excavator if there are no underground facilities at the site, or if necessary mark the site with paint or flags to identify the location of such facilities.

3.6 False Tickets

A 400' buffer zone encompasses the borders of every facility mapped in the MOCS spatial database. Any excavation within the buffer zone of a facility will cause a locate ticket to be issued to the owner/operator of the facility. Occasionally, a ticket will be issued for a facility outside the 400' buffer zone; such tickets are referred to as "false tickets". Since member firms are charged per ticket received, false tickets result in unnecessary costs. MOCS recognizes the inconvenience of false tickets, and therefore allows for the reimbursement of false ticket costs.

4.0 MDEQ REGIONAL OFFICE STRUCTURE

The MDEQ Office of Pollution Control utilizes three regional offices, which provide investigative, logistical and limited analytical support for the major environmental regulatory programs of MDEQ. The Regional Offices employ technicians who are trained in investigative techniques and evidence gathering.

4.1 North Regional Office

The North Regional Office (NRO) is located in Oxford, Lafayette County. The NRO is comprised of 14 full time employees: 1 administrator, 12 scientists/technicians and 1 clerical person. MDEQ vehicles are available for official use by all employees, with the exception of clerical employees. Darryail Whittington is currently the Supervisor of the NRO.

4.2 Central Regional Office

The Central Regional Office (CRO) is located in Pearl, Rankin County. The CRO is comprised of 11 full time employees: 2 administrators, 8 scientists/technicians and 1 clerical person. MDEQ vehicles are available for official use by all employees, with the exception of clerical employees. Mike Taylor is currently the Supervisor of the CRO.

4.3 *South Regional Office*

The South Regional Office (SRO) is located in Biloxi, Harrison County. The SRO is comprised of 10 full time employees: 1 administrator, 8

scientists/technicians and 1 clerical person. MDEQ vehicles are available for official use by all employees, with the exception of clerical employees. Lloyd Sharp is currently the Supervisor of the SRO.

4.4 *Complaint Tracking System*

The MDEQ Office of Pollution Control is responsible for conducting investigations of approximately 3000 complaints a year regarding potential pollution problems in the state. In order to expedite the process, regional office technicians use the Complaint Tracking System (CTS) when performing complaint investigations. A complaint is filed by personnel at the MDEQ Southport Center and is entered into the CTS database. The complaint is then routed to the regional office that operates in the affected county. The secretary at the regional office receives the complaint and dispatches it to a technician. The technician will then perform a site visit to investigate the complaint and determine if any further actions are necessary.

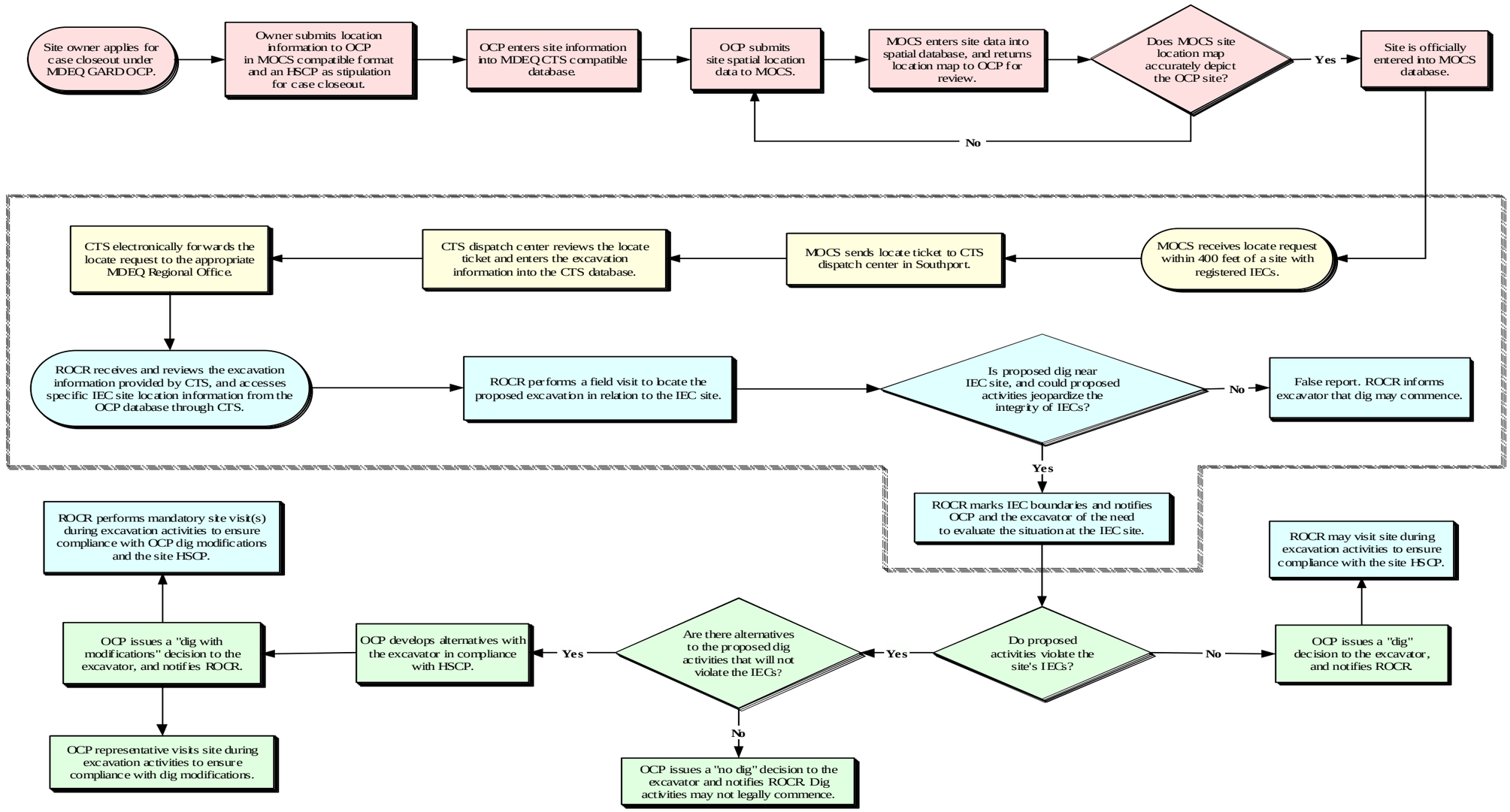
5.0 CONCEPTUAL MODEL (REVISED)

On January 20, 2005, FTN/WLBE presented to GARD the One-Call Conceptual Model for incorporating and managing MDEQ GARD sites with IECs within MOCS. The conceptual model, which outlined MDEQ's membership and operation within the MOCS program, incorporated information gained through the review of EPA's One-Call Pilot Programs, the existing Mississippi One-Call System, and the MDEQ Regional Pollution Control Office Structure. The model was reviewed by GARD before being returned to FTN/WLBE with comments. FTN/WLBE has since revised the conceptual model to incorporate the comments and address the concerns of the GARD review panel. The revised model focuses on the required logistics necessary to successfully incorporate sites with IECs into MOCS.

5.1 Logistics

Figure 1, which is referenced on page 14, depicts the steps for entering sites with IECs into MOCS and the response procedures for locate requests involving these sites. There are essentially five major parties that will be involved in the process. These groups are 1) MDEQ One-Call Response Regions, 2) MDEQ GARD One Cleanup Program, 3) Mississippi One-Call System, 4) MDEQ Complaint Tracking System and 5) Excavators. Each party will have specific responsibilities as described in the following sections.

Figure 1: Conceptual Model for Incorporation of IECs into MOCS



KEY TO COLORS AND SHADING	
	MDEQ GARD OCP/MOCS Site Registration Process
	MOCS/MDEQ CTS Locate Request Process
	MDEQ Regional Response Process
	MDEQ OCP Evaluation and Decision Process
	48-Hour Notification Period

Note:
Pursuant to MS Code § 77-13-17 (8) (c), MDEQ OCP shall provide an annual update to MOCS of all IEC sites that are to be added or removed from the one-call system.

KEY TO ABBREVIATIONS			
IEC	Institutional and Engineering Controls	**OCP**	One Cleanup Program
MOCS	Mississippi One-Call System	**HSCP**	Health and Safety/Contingency Plan
MDEQ	Mississippi Department of Environmental Quality	**CTS**	Complaint Tracking System
GARD	Office of Pollution Control, Groundwater Assessment and Remediation Division	**ROCR**	Regional One-Call Representative

5.1.1 MDEQ One-Call Response Regions

As previously described in *Section 4.0 MDEQ Regional Office Structure*, MDEQ Office of Pollution Control currently divides the state into three regions and utilizes three field offices to manage its activities. In order to avoid unnecessary restructuring of the jurisdictions of existing MDEQ field offices, the MDEQ One-Call Response Regions shall utilize the same regional boundaries and field offices. The three regions consist of the counties as shown in Table 2: MDEQ One-Call Response Regions by County, and in Figure 2: MDEQ One-Call Response Regions Map.

Each of the three MDEQ regional offices will appoint two staff members to serve as the primary and secondary Regional One-Call Representatives (ROCR). The ROCR's major responsibilities will be (1) to perform field visits to determine if proposed excavations are in close proximity to sites with IECs, (2) to mark the boundaries of a site's IECs, and (3) to monitor excavation activities to ensure compliance with IECs.

Based on conversations with regional office supervisors, it appears the regional offices are currently adequately staffed and equipped to meet the demands of performing One-Call Responses. As described later in *Section 7.0 Cost Analysis*, regional office supervisors estimated that they would need to hire one additional staff member each after the fourth year of implementation to meet MOCS response demands.

The following MDEQ staff members have been recommended by their supervisors for appointment as the primary and secondary ROCR's for each of the regional offices:

North Regional Office: Lynne Burrell and Stanley Watkins

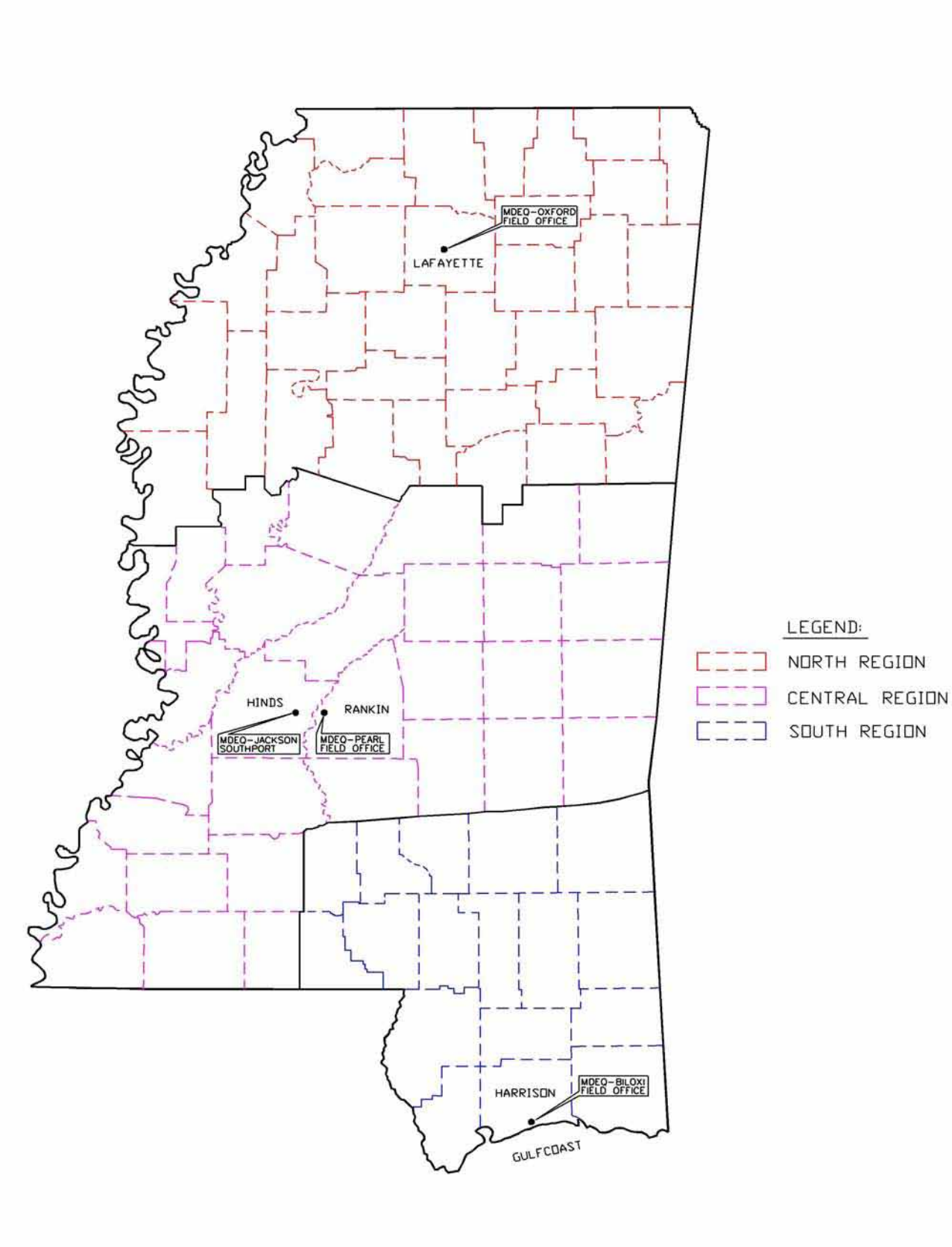
Central Regional Office: Tony Cox and Mark Oliver

South Regional Office: Eric Bass and Chad Seymour

Table 2: MDEQ One-Call Response Regions by County

	North Region	Central Region	South Region
1	Alcorn	Attala	Covington
2	Benton	Adams	Forrest
3	Bolivar	Amite	Franklin
4	Calhoun	Claiborne	George
5	Carroll	Clarke	Greene
6	Chickasaw	Copiah	Hancock
7	Choctaw	Hinds	Harrison
8	Clay	Holmes	Jackson
9	Coahoma	Humphreys	Jefferson Davis
10	Desoto	Issaquena	Jones
11	Grenada	Jasper	Lamar
12	Itawamba	Jefferson	Lawrence
13	Lafayette	Kemper	Marion
14	Lee	Lauderdale	Pearl River
15	Leflore	Leake	Perry
16	Lowndes	Lincoln	Stone
17	Marshall	Madison	Walthall
18	Monroe	Neshoba	Wayne
19	Montgomery	Newton	
20	Oktibbeha	Noxubee	
21	Panola	Pike	
22	Pontotoc	Rankin	
23	Prentiss	Scott	
24	Quitman	Sharkey	
25	Sunflower	Simpson	
26	Tallhatchie	Smith	
27	Tate	Warren	
28	Tippah	Wilkinson	
29	Tishomingo	Winston	
30	Tunica	Yazoo	
31	Union		
32	Washington		
33	Webster		
34	Yalobusha		

Figure 2: MDEQ One-Call Response Regions



5.1.2 MDEQ GARD One Cleanup Program

The MDEQ GARD One Cleanup Program (OCP) can be used to successfully incorporate and manage IECs within MOCS. All sites with IECs will be registered with OCP, which will enter all site information into a central database that is accessible through the MDEQ CTS *(see Section 5.1.4).*

As a stipulation for case closeout, site owners will provide OCP staff with specific spatial location information pertaining to the area of the site affected by the IECs. GPS coordinates shall be provided in sufficient number to accurately delineate the affected area.

As an additional stipulation for case closeout, site owners will be required to submit a Health and Safety/Contingency Plan to assign responsibilities, establish personnel protection standards, mandatory safety procedures, and provide for contingencies that may arise while excavating or other operations are being conducted at the site. For UST (Underground Storage Tank) sites, the plan will consist of a standardized document, available on the OCP website, with site specific modifications. Sites within the Voluntary Evaluation Program (VEP) and Uncontrolled Sites sections will require site specific plans to be prepared by outside consultants.

OCP will be responsible for coordinating and implementing those actions necessary for MDEQ to participate as a member firm in MOCS. An appointed OCP staff member will be responsible for applying for membership into the MOCS. The same staff member will be responsible for submitting all spatial database information to MOCS for sites with IECs.

OCP will also be responsible for evaluating proposed excavations in the vicinity of sites with IECs. OCP will have the authority to issue decisions allowing, limiting, or prohibiting proposed excavation activities based on their impact to the site's IECs. Such authority is granted to OCP by MS Code § 49-17-17 which allows MDEQ agents "to exercise all incidental powers as may be deemed necessary to carry out the purposes of sections 49-17-1 through 49-17-43 and sections 17-17-1 through 17-17-47", the purposes of which are essentially to protect human health and the environment.

In the event that OCP reevaluates a MOCS registered site and determines that IECs are no longer necessary to protect the environment and public health, and that excavation activities are no longer restricted in the vicinity of the site, OCP shall contact MOCS in writing to request that the site be removed from the MOCS database. OCP shall provide a revised map of the site vicinity indicating the spatial location to remove from the MOCS

system. The map shall be in one of the three MOCS compatible formats described above. Such revisions may be done on an individual site basis or provided in the annual update of underground facilities required by all MOCS member firms per MS Code § 77-13-17 (8) (c) listed in *Section 3.1 MOCS Legislation*.

The staff for the OCP will ideally be comprised of existing employees from each GARD division. A detailed description of the OCP staffing structure will be provided in the final MS One Cleanup Program Feasibility Report, pursuant to Task 1.b. of the November 10, 2004 agreement between FTN/WLBE and MDEQ GARD to develop a One Response Program for the State of Mississippi. As described later in *Section 7.0 Cost Analysis*, GARD management expects that the division is currently equipped and adequately staffed to meet the initial demands of membership in MOCS. An additional staff member is not expected to be needed until after the second year of implementation.

5.1.3 Mississippi One-Call System

MOCS will enter the site location information provided by OCP into their spatial database. It is the policy of MOCS to then return the location maps to OCP for review to ensure that all sites are accurately mapped. If a site inaccuracy exists, OCP shall make the necessary corrections and/or comments and then resubmit to MOCS. The process will continue until OCP grants final approval.

5.1.4 MDEQ Complaint Tracking System

As previously described in *Section 4.0 MDEQ Regional Office Structure*, MDEQ Office of Pollution Control currently utilizes a computerized notification system and database to efficiently address reports of potential pollution. The CTS could be modified to incorporate MOCS locate requests for sites with IECs. Provided the OCP site database is designed to be compatible with CTS, information pertaining to any closed site with IECs will be accessible online to MDEQ ROCRs and OCP staff through the CTS. CTS staff currently handle approximately 3000 complaints per year. It is estimated that each region may receive thirty (30) locate requests for IEC sites in the first year, and an additional thirty (30) requests each year thereafter. It is expected that CTS will be able to effectively handle the initial relatively small increase in call volume.

5.1.5 Locate Requests and Response Procedures

The following steps will be followed to respond to locate requests involving sites with IECs:

1. When MOCS receives a locate request within 400 feet of a registered IEC site(s), a ticket will be prepared which lists the excavator and details of the proposed activities. It will then be sent to the CTS dispatch center at the MDEQ Southport Office.

   Per *MS § 77-13-9,* the 48-hour response period begins at the time MOCS sends the locate request to CTS.

2. The CTS dispatch center will review the locate request and electronically forward the information via the CTS to the appropriate Regional Office.

3. The ROCR will review the excavation information provided by CTS and then access specific site location information regarding IEC site(s) from the OCP database through CTS.

4. The ROCR performs a field visit to locate the proposed excavation in relation to the site's IECs.

   a. If the proposed dig is not near the contaminated site, (i.e. MOCS issued a false ticket) the ROCR will inform the excavator that the dig may commence. The ROCR will notify OCP of the false ticket so that OCP can file an MOCS reimbursement request.

   b. If the proposed dig is near the contaminated site, and could potentially jeopardize the integrity of the IECs, the ROCR will mark the boundaries of the IECs with paint and/or colored flags as specified by MOCS, and notify the excavator and OCP of the need to evaluate the situation in regard to the site's IECs to make a decision, either allowing, limiting, or prohibiting the proposed excavation.

   The actions associated with Step 4 above must be completed within the 48-hour response period per *MS § 77-13-9*.

5. A representative of OCP will contact the excavator to discuss the proposed excavation activity and explain the purpose of any limitations resulting from the IECs.

   a. If the excavator's proposed activities do not violate or disturb the IECs, OCP will issue a "dig" decision to the excavator and furnish a copy of the site's Health and Safety/Contingency Plan.

The ROCR may perform site visits during excavation activities to ensure the excavator is operating in compliance with the site's Health and Safety/Contingency Plan.

b. If the excavator's proposed activities will violate or disturb the IECs, OCP and the excavator may work together to develop alternatives that will not compromise the IECs. The site's Health and Safety/Contingency Plan may provide guidance to develop such alternatives and allow the project to continue. If a satisfactory alternative is developed, OCP will issue a "dig with modifications" decision to the excavator and furnish a copy of the site's Health and Safety/Contingency Plan.

   The ROCR will conduct mandatory site visits during excavation operations to observe that the modifications are followed and to ensure the excavator is operating in compliance with the site's Health and Safety/Contingency Plan.

c. If the excavator's proposed activities will violate or disturb the IECs, and the excavator cannot offer acceptable modifications, OCP will issue a "no dig" decision to the excavator and the proposed activities may not legally commence.

All discussions between the excavator and OCP regarding site conditions, decisions made by OCP, and requirements of the site's Health and Safety/Contingency Plan shall be verified in writing on a standard OCP form that can be faxed to the excavator for a signature and returned to OCP for inclusion in the site's file records.

5.2 Legislation

Mississippi One-Call legislation (Chapter 17, Section 13 of the Mississippi Code) encourages excavators to notify MOCS within two to ten working days of a proposed excavation so that MOCS member firms can field locate their underground utility lines and underground facilities in or near the area where excavations are planned.

In order to incorporate sites with IECs, a Memorandum of Agreement (MOA) could be agreed to by MOCS and MDEQ that would include the following definitions:

In the MOA, the definition of "underground facility" may be as follows:

> "Underground facility" shall mean any underground utility lines and other items which shall be buried or placed below or submerged for

> use in connection with underground utility lines and including but not limited to pipes, sewers, conduits, cables, valves, lines, wires, manholes, vaults, attachments, and those portions of poles below the ground, or any institutional or engineering controls administered through the Mississippi Department of Environmental Quality.

The definition of "operator" may be amended as follows:

> "Operator" shall mean any individual who owns or operates a utility or, manages institutional or engineering controls for the Mississippi Department of Environmental Quality.

The definition for "institutional control" may be added as follows:

> "Institutional control" shall mean any non-engineered instruments, such as administrative and legal controls, that help to minimize the potential for human exposure to contamination and protect the integrity of the remedy by limiting land or resource use and by providing information that helps modify or guide human behavior at properties where hazardous substances prevent unlimited use and unrestricted exposure. These include, but are not limited to zoning, building or excavation permits, well drilling prohibitions, easements, and restrictive real covenants.[1]

The definition for "engineering control" may be added as follows:

> An "Engineering control" shall mean any man-made control associated with remedial actions directed exclusively toward containing or controlling the migration of regulated substances through the environment, or severing exposure pathways of the regulated substance. These include, but are not limited to, fences, slurry walls, liner systems, caps, leachate collection systems, and groundwater recovery trenches.[2]

Currently, "High Visibility Safety Yellow" is used to identify petroleum products, hazardous, flammable, corrosive, or toxic materials, product and steam lines, and gas or gaseous materials (MS Code § 77-13-9). Since institutional controls are used to restrict land use at sites contaminated by toxics, petroleum products, or gaseous materials, "High Visibility Safety Yellow" could reasonably be used to mark sites with IECs; the MOA should be worded accordingly.

[1] EPA Strategy to Ensure Institutional Control Implementation at Superfund Sites, OSWER No. 9335.0-106, September 2004. EPA generally consolidates ICs into four categories: 1) governmental controls (e.g. zoning, local ordinances); 2) proprietary controls (e.g. easements, restrictive covenants); 3) enforcement and permit tools (e.g. consent decrees, administrative orders); and 4) information tools (e.g. notices filed in the land records, advisories).

[2] Pennsylvania's Land Recycling and Environmental Remediation Standards Act, Section 103, with addition of "*or severing exposure pathways of the regulated substance*" and "*fences*".

5.3 Qualifications

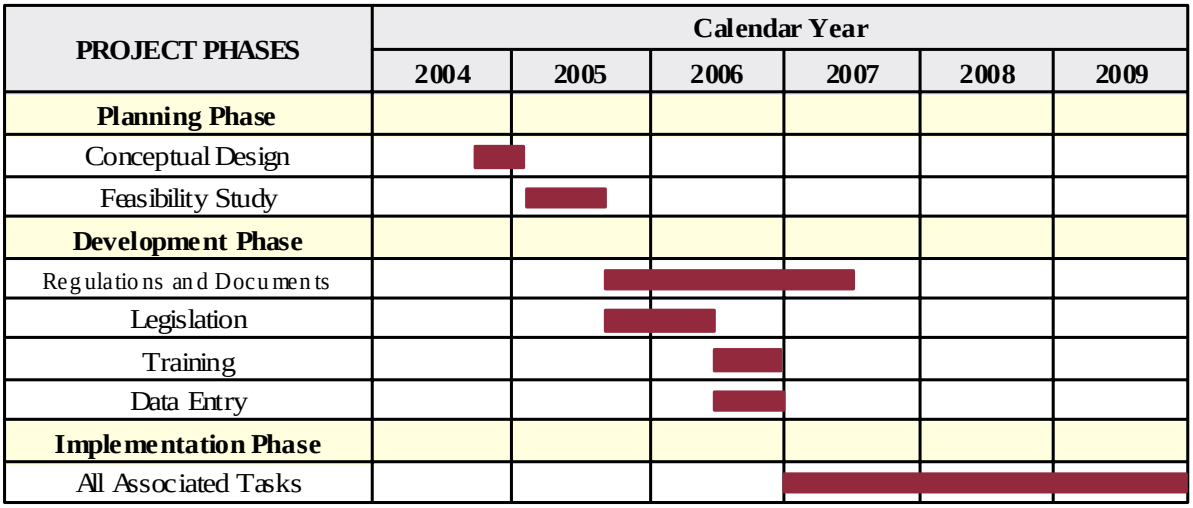
The conceptual model presented in this report is based on the premise that initially, only sites with IECs that are managed and closed through the future One Clean-Up Program will be entered into MOCS during the first five years of implementation. Active and inactive sites which pre-date the One-Cleanup Program will not be considered for inclusion in MOCS until the sixth year of operation at which time OCP staff will be familiarized and more efficient with tasks relating to MOCS and IEC sites. At that time, sites which pre-date the One Cleanup Program will be considered for inclusion in MOCS, giving first priority to GARD sites which were remediated with treatment systems.

6.0 SCHEDULE AND WORKLOAD PROJECTIONS

6.1 Schedule

Figure 3 presents the proposed schedule for incorporating MDEQ sites with IECs into MOCS.

Figure 3: Proposed Schedule for Incorporation of IECs into MOCS



- *Planning Phase* – The initial phase consists of the development of the conceptual design and completion of the feasibility study. The conceptual design was completed in January 2005, while the feasibility study is proposed to be completed by September 2005.

- *Development Phase* – The development phase consists of several tasks, discussed below:

  - Regulations and Documents:

This task involves the preparation of training materials, MDEQ guidance documents, database modifications if needed, and standard templates for UST Health, Safety, and Contingency Plans. Such documents will require additional refinements once the project is implemented. Thus, FTN/WLBE expects this task to last approximately two years.

- MOCS/MDEQ - MOA:

  This task involves the preparation of the Memorandum of Agreement (MOA) between MDEQ and MOCS. This document may require additional refinements once the project is implemented. Thus, FTN/WLBE expects this task to last approximately nine (9) months.

- Training:

  The last six months of 2006 are intended for training and educating all affected parties. Training priority should be given to OCP staff because they are responsible for completing the data entry phase which is to run concurrently with the training phase. OCP staff will meet with representatives of MOCS to learn and discuss the requirements of MOCS membership as they pertain to IEC sites. Individual training sessions will be held for each MDEQ regional office, as well as the CTS office in Southport. The roles and responsibilities of each office in regard to MOCS and IEC sites will be addressed at the training sessions. Information sessions for excavators will be hosted by the ROCR in each region once the ROCRs have completed their training. Training documents, prepared during the *Development Phase,* will be provided to all affected parties and should also be made available on the internet, via the OCP and/or MOCS websites.

- Data Entry:

  After OCP staff members receive appropriate training, they will begin the task of entering site specific information regarding closed OCP IEC sites into a CTS compatible database. The staff will also begin the process of providing MOCS with the necessary spatial location data for each IEC site. The task of initial data entry should be completed by the end of 2006.

- Implementation Phase:

  All tasks associated with the implementation phase are scheduled to begin in January 2007. At that time, OCS will begin sending locate requests for IEC sites to CTS, and CTS will in turn direct the locate requests to MDEQ ROCRs who will field locate the IECs and if necessary, notify MDEQ OCP of the

need to evaluate the proposed excavation activities. During this phase, input will be solicited from all affected parties (MOCS, MDEQ CTS, MDEQ ROCRs, MDEQ OCP, and excavators) to assess the effectiveness and efficiency of the system. Should adjustments be necessary, they can be made during the first six months of the implementation year, and appropriate documents revised accordingly.

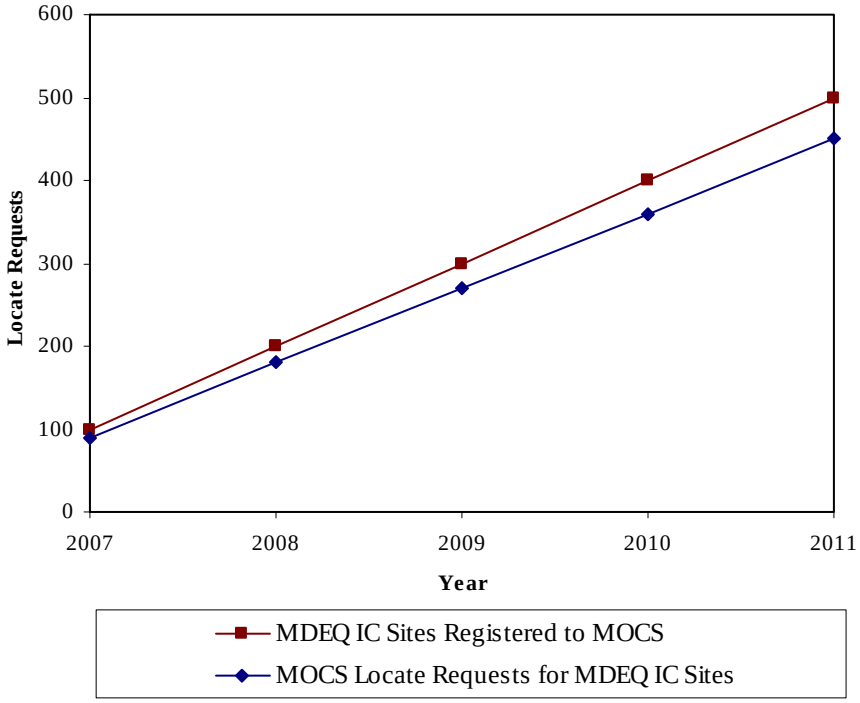
6.2 Workload Projections

Figure 4 on the following page presents the five year projected future volumes of MOCS locate requests for OCP IEC sites starting in January 2007. The projected volumes were estimated using the methodology described below.

Current MDEQ GARD information indicates that the UST Section registers approximately 40-50 new sites per year, the VEP Section gains an average of 3-4 new sites per month, and the Brownfields Section adds nearly 5 sites per year. Upon implementation of the One Cleanup Program, sites in each of these GARD sections will utilize IECs. Thus, it is reasonable to estimate that OCP will register approximately 100 new IEC sites per year with MOCS starting in the implementation year (2007). Of the total number of OCP IEC sites registered with MOCS, it is estimated that 90% of the sites will receive locate requests each year. Thus, by January 2007, it is expected that 100 MDEQ IEC sites will be registered to MOCS and of those, 90 sites will receive locate requests during the first year of implementation.

In the Conceptual Plan submitted on January 20, 2005, it was noted that based on 2004 MOCS call volumes, it was expected that the North Region would receive 30-50% fewer MOCS locate requests for sites with IEC's than the Central and South regions. However, given the rapid development of North Region cities such as Tunica, Tupelo, Southaven, and Oxford, it is reasonable to expect that within future years, excavation activities in the North Region will increase significantly. Thus, for the purpose of the cost estimate found in *Section 7.3*, FTN/WLBE has assumed that MOCS locate requests for MDEQ IEC sites will be evenly distributed among the three regions.

Figure 4: Five Year Projection of IEC Sites to be MOCS Registered and Resultant Locate Requests



For the purposes of calculating implementation costs, it was necessary to estimate the average distance ROCRs will have to travel to respond to locate requests. FTN/WLBE estimated the average one-way distance to be 82.5 miles (1.5 hours traveling at 55 mph), thus the cost estimate found in *Section 7.3 Implementation Phase Cost* accounts for 165 miles of travel per locate request.

Based on the workload projections of the previous paragraphs, interviews were conducted with the MDEQ Regional Offices, CTS, and GARD to identify future staffing needs. According to the MDEQ Regional Office supervisors, they have adequate staff to operate as the ROCR for the first four (4) years after implementation. The supervisors anticipate that in 2011, an additional Environmental Technician will be needed at each regional office.

CTS Supervisor, Tim Aultman expects that CTS will be able to effectively handle directing locate requests to the appropriate regional offices for four (4) years before an Administrative Assistant will be needed in 2011 to assist in routing the locate requests.

MDEQ GARD staff member Trey Hess estimated that the OCP would not require additional staff until after the first two years of implementation. At the beginning of the third year (2009) an additional Environmental Engineer-In-Training will be needed.

7.0 COST ANALYSIS

7.1 Planning Phase Cost

The Planning Phase has been and will continue to be funded by the November 10, 2004 contract agreement between GARD and FTN/WLBE to develop a One Response Program for the State of Mississippi. Approximately $80,000 dollars of the contract sum is designated for the completion of tasks associated with the Planning Phase.

7.2 Development Phase Cost

The work associated with the Development Phase will be performed using both in-house and out-sourced services. Costs associated with the various tasks under this phase are described below:

7.2.1 Regulation and Documents

MDEQ has indicated that costs associated with this phase will be absorbed by GARD, as they are adequately staffed and have appropriate facilities and resources to accomplish the tasks.

7.2.2 Training

Based on conversations with GARD representatives, FTN/WLBE estimates training costs to be approximately $25,000 dollars.

7.2.3 Data Entry

The work associated with the data entry phase will be covered under an existing contract between GARD and FTN/WLBE in the amount of $35,000 dollars.

7.3 Implementation Phase Cost

Figure 5 depicts the projected fixed and variable future costs of incorporating closed OCP IEC sites into MOCS over a five year period, from the implementation year, 2007 to 2011. The projected costs are separated by the MDEQ Office that will incur the additional fees. The cost estimate is based on information gained from interviews with MOCS representatives, MDEQ CTS staff, MDEQ Regional Office managers, MDEQ GARD senior staff, and the locate requests and workload projections described previously in *Section 6.2.* Table 3 summarizes the yearly and total projected costs. GARD expects the implementation costs to be funded by a future EPA CERCLA §128(a) Brownfield Grant.

Table 3: Summary of Projected Costs for IEC Incorporation into MOCS

Year	Projected Future Cost to MDEQ
2007	$7,520.00
2008	$14,904.60
2009	$94,483.25
2010	$103,152.54
2011	$364,282.36
5-Year Total	**$584,342.75**

Figure 5: Projected Fixed and Variable Future Costs of Implementing MOCS/IEC Program

MDEQ Office	2007			2008			2009			2010			2011		
	Unit Price/ Base Salary	Qty./Mult.	Cost	Unit Price/ Base Salary	Qty./Mult.	Cost	Unit Price/ Base Salary	Qty./Mult.	Cost	Unit Price/ Base Salary	Qty./Mult.	Cost	Unit Price/ Base Salary	Qty./Mult.	Cost
CTS Call Center															
Administrative Assistant													$20,600.00	1.72	$35,432.00
computer													$3,000.00	1	$3,000.00
North Regional Office															
Environmental Scientist													$25,470.00	1.72	$43,808.40
vehicle													$21,420.00	1	$21,420.00
computer													$3,000.00	1	$3,000.00
cellular phone/calling plan													$150.00	1	$150.00
GPS/PDA unit													$1,000.00	1	$1,000.00
digital camera													$500.00	1	$500.00
Travel (mileage)	$0.40	4950	$1,980.00	$0.40	9900	$3,960.00	$0.40	14850	$5,940.00	$0.40	19800	$7,920.00	$0.40	24750	$9,900.00
Travel (meals-lunch)	$10.00	28	$280.00	$10.00	56	$560.00	$10.00	84	$840.00	$10.00	112	$1,120.00	$10.00	140	$1,400.00
Travel (meals-overnight)	$30.00	2	$60.00	$30.00	4	$120.00	$30.00	6	$180.00	$30.00	8	$240.00	$30.00	10	$300.00
Travel (hotel)	$60.00	2	$120.00	$60.00	4	$240.00	$60.00	6	$360.00	$60.00	8	$480.00	$60.00	10	$600.00
Central Regional Office															
Environmental Scientist													$25,470.00	1.72	$43,808.40
vehicle													$21,420.00	1	$21,420.00
computer													$3,000.00	1	$3,000.00
cellular phone/calling plan													$150.00	1	$150.00
GPS/PDA unit													$1,000.00	1	$1,000.00
digital camera													$500.00	1	$500.00
Travel (mileage)	$0.40	4950	$1,980.00	$0.40	9900	$3,960.00	$0.40	14850	$5,940.00	$0.40	19800	$7,920.00	$0.40	24750	$9,900.00
Travel (meals-lunch)	$10.00	28	$280.00	$10.00	56	$560.00	$10.00	84	$840.00	$10.00	112	$1,120.00	$10.00	140	$1,400.00
Travel (meals-overnight)	$30.00	2	$60.00	$30.00	4	$120.00	$30.00	6	$180.00	$30.00	8	$240.00	$30.00	10	$300.00
Travel (hotel)	$60.00	2	$120.00	$60.00	4	$240.00	$60.00	6	$360.00	$60.00	8	$480.00	$60.00	10	$600.00
South Regional Office															
Environmental Scientist													$25,470.00	1.72	$43,808.40
vehicle													$21,420.00	1	$21,420.00
computer													$3,000.00	1	$3,000.00
cellular phone/calling plan													$150.00	1	$150.00
GPS/PDA unit													$1,000.00	1	$1,000.00
digital camera													$500.00	1	$500.00
Travel (mileage)	$0.40	4950	$1,980.00	$0.40	9900	$3,960.00	$0.40	14850	$5,940.00	$0.40	19800	$7,920.00	$0.40	24750	$9,900.00
Travel (meals-lunch)	$10.00	28	$280.00	$10.00	56	$560.00	$10.00	84	$840.00	$10.00	112	$1,120.00	$10.00	140	$1,400.00
Travel (meals-overnight)	$30.00	2	$60.00	$30.00	4	$120.00	$30.00	6	$180.00	$30.00	8	$240.00	$30.00	10	$300.00
Travel (hotel)	$60.00	2	$120.00	$60.00	4	$240.00	$60.00	6	$360.00	$60.00	8	$480.00	$60.00	10	$600.00
GARD One-Call Office															
MOCS Membership Fees*	$1.45	90	$200.00	$1.47	180	$264.60	$1.47	270	$396.90	$1.49	360	$536.40	$1.49	450	$670.50
Environmental Engineer I.T.							$40,189.74	1.72	$69,126.35	$42,637.29	1.72	$73,336.14	$45,898.06	1.72	$78,944.66
computer							$3,000.00	1	$3,000.00						
YEARLY TOTALS:	2007 =	$7,520.00		2008 =	$14,904.60		2009 =	$94,483.25		2010 =	$103,152.54		2011 =	$364,282.36	
5-YEAR GRAND TOTAL:	**$584,342.75**														

* MOCS Membership fee is charged per locate request, however the minimum yearly fee is $200.

8.0 CONCLUSIONS

The following is a summary of the conclusions drawn based on the study's research:

1. Planning – The conceptual model is streamlined and utilizes established systems (MOCS and CTS) and workforces (MDEQ Regional Offices and GARD OCP staff) to create an efficient process for managing sites with IECs.

2. Development – MDEQ has the experience and capabilities to prepare guidance documents to aid in education and training. Training can be conducted at the facility of each affected party (GARD OCP, CTS, ROCR) thereby providing for individualized instruction of the specific tasks assigned to each party. Excavators can learn how they will be impacted by the changes at informational sessions offered by the ROCRs. GARD OCP data entry of site IEC information will utilize the structure of the existing CTS database which is expected to need only minor revisions to accommodate specific IEC data.

3. Implementation – Given that the necessary systems (MOCS and CTS) and workforces (MDEQ Regional Offices and GARD OCP staff) are already established, and that MDEQ is experienced in training employees for new programs, the process of implementation does not appear to be a major obstacle.

4. Schedule – The proposed schedule for incorporating IECs into MOCS fits well within the timeline of the larger, all inclusive One Response Program, which includes passage of the Uniform Environmental Covenants Act, establishment of the One Clean-up Program, as well as creating the IEC One-Call Program.

5. Cost – The cost to MDEQ for incorporating IECs into MOCS is not significant until the fifth year of implementation when additional staff is needed at each of the Regional Offices and at the CTS Center. By this time, a second EPA CERCLA 128(a) Brownfields grant should be secured by MDEQ to help defray these costs. It is important to note that each new staff member will be available for tasks in addition to their one-call duties, as responding to MOCS locate requests will not occupy all of their time.

9.0 OPINION

Based on the findings described in *Section 8.0 Conclusions*, it appears that the project is feasible assuming the following criteria:

1. Approval of MDEQ as a member firm of MOCS by the MOCS Board of Directors.

2. Successful implementation of the Uniform Environmental Covenants Act.

3. Successful implementation of the One Cleanup Program.

4. Adequate available funding sources.

5. Sufficient MDEQ in-house capabilities to both develop and implement the project.

FTN/WLBE acknowledges that the conceptual model, schedule, and cost analysis presented in this report are based on the criteria listed above. Should any of the criteria not be met, the conclusions made in this feasibility study may be impacted, including but not limited to changes in the proposed schedule and cost estimates.

END OF REPORT

APPENDIX A

MISSISSIPPI ONE-CALL SYSTEM MEBERSHIP APPLICATION

APPLICATION FOR MEMBERSHIP

WHEREAS, Mississippi One-Call System, Inc., (the Corporation), a Mississippi non-profit corporation, has been formed in an effort to reduce damage to underground facilities of its members and to cause to be established a statewide notification center (the "Notification Center"):

WHEREAS, the undersigned represents that it has underground facilities located within the state of Mississippi and is otherwise eligible to be a Member of the Corporation; and

WHEREAS, the undersigned desires to be a Member of the Corporation and hereby tenders with this application the fee as specified by the Board of Directors of the Corporation.

NOW, THEREFORE, the undersigned hereby applies for admission as a Member of the Corporation and in connection therewith covenants and agrees when accepted as a Member, and it's assigns, as follows:

1. To not share, sell or disseminate the One-Call ticket information with any other entity in any form or fashion;

2. To abide by and comply with such rules and regulations as the Board of Directors may adopt, from time to time, for utilization of the statewide Notification Center by members;

3. To abide by and comply with the By-Laws of the Corporation;

4. To pay promptly the fees prescribed by the Board of Directors of the Corporation.

(Please Print or Type)

(Company)_____

(Name and Title)_____

(Phone Number)_____(Fax)_____

(Address)_____

ATTEST:

_____By:_____

(Company Seal, if applicable) (Signature)

ACCEPTED BY MISSISSIPPI ONE-CALL SYSTEM, INC.

DATE _____ BY _____

Please mail to: Mississippi One-Call System, Inc. 5258 Cedar Park Dr., Suite J, Jackson, MS 39206

Or fax to: 601-366-7666

For information on cost of membership or if you have any questions, please contact Jerri Pierce 601-362-4322 or e-mail them to ms1call@bellsouth.net

APPENDIX B

MISSISSIPPI ONE-CALL INTERNET LOCATE REQUEST FORM

Locate Request Form

PLEASE REMEMBER TO FILL IN ALL SPACES ON THIS LOCATE FORM!

AND REMEMBER

NO EMERGENCIES OR SHORT NOTICES CAN BE ACCEPTED VIA INTERNET!

COMPANY INFORMATION:

Phone Number with Area Code: or Code:

Source E-mail Type (Choose One) Contractor

Company:

Fax Number:

Address: E-Mailer's Name:

City: State: Zip:

Contact Phone: Ext.

Contact Person:

E-Mail Address:

Call Back: Fax:

WORK SITE INFORMATION

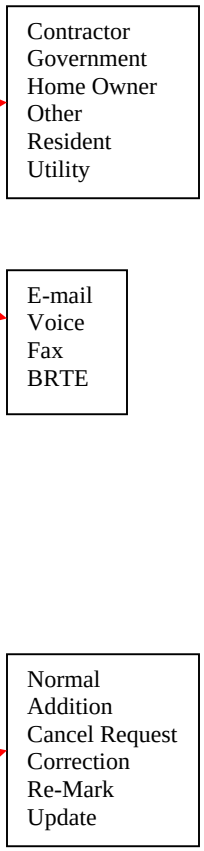
Type (Choose One): Normal Type of Work:

Date Work Begins: Time Work Begins:

County: Town:

Address Number: Prefix: Street Name:

Street Type: Suffix: Additional Addresses: Yes Yes No No



Nearest Intersecting Street/Road:

If Known - Lat: Long:

Using Explosives? Yes Yes or No No Site Marked With White?
Yes Yes or No No

Enter your driving directions in the space provided below:

Work Being Done For: Extent/Duration of Job:

Grids:

Want List of Member Companies Notified? Yes Yes No No

Notify By E-Mail: Address

or Notify by Fax: Number:

Clear Form

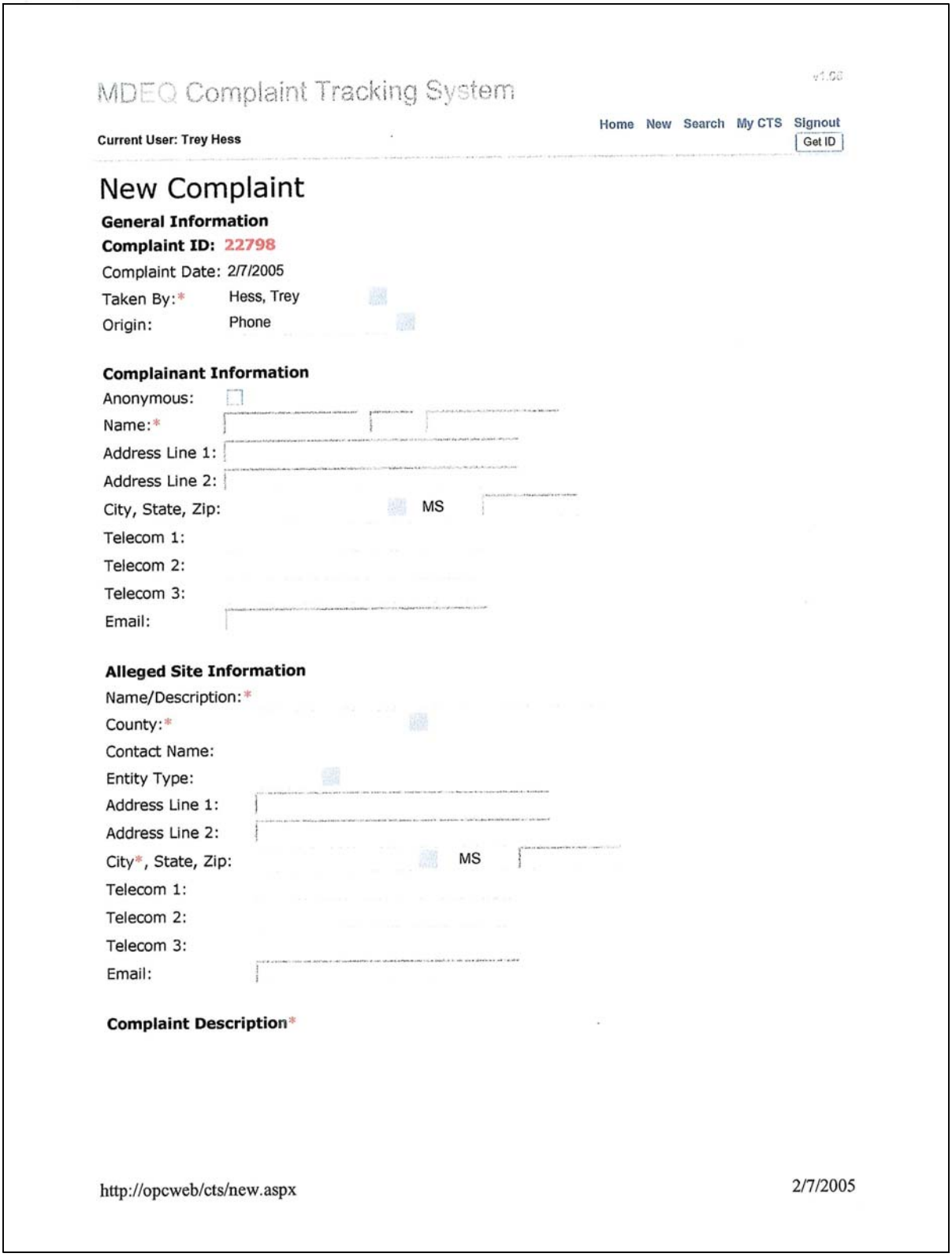
Submit Locate

---

http://www.ms1call.org/html/locate%20request%20form.htm

APPENDIX C

MDEQ CTS NEW COMPLAINT FORM WITH ONE-CALL LOCATE REQUEST BOX



MDEQ Complaint Tracking System

v1.00

Current User: Trey Hess

Home New Search My CTS Signout

Get ID

New Complaint

General Information

Complaint ID: 22798

Complaint Date: 2/7/2005

Taken By:* Hess, Trey

Origin: Phone

Complainant Information

Anonymous:

Name:*

Address Line 1:

Address Line 2:

City, State, Zip: MS

Telecom 1:

Telecom 2:

Telecom 3:

Email:

Alleged Site Information

Name/Description:*

County:*

Contact Name:

Entity Type:

Address Line 1:

Address Line 2:

City*, State, Zip: MS

Telecom 1:

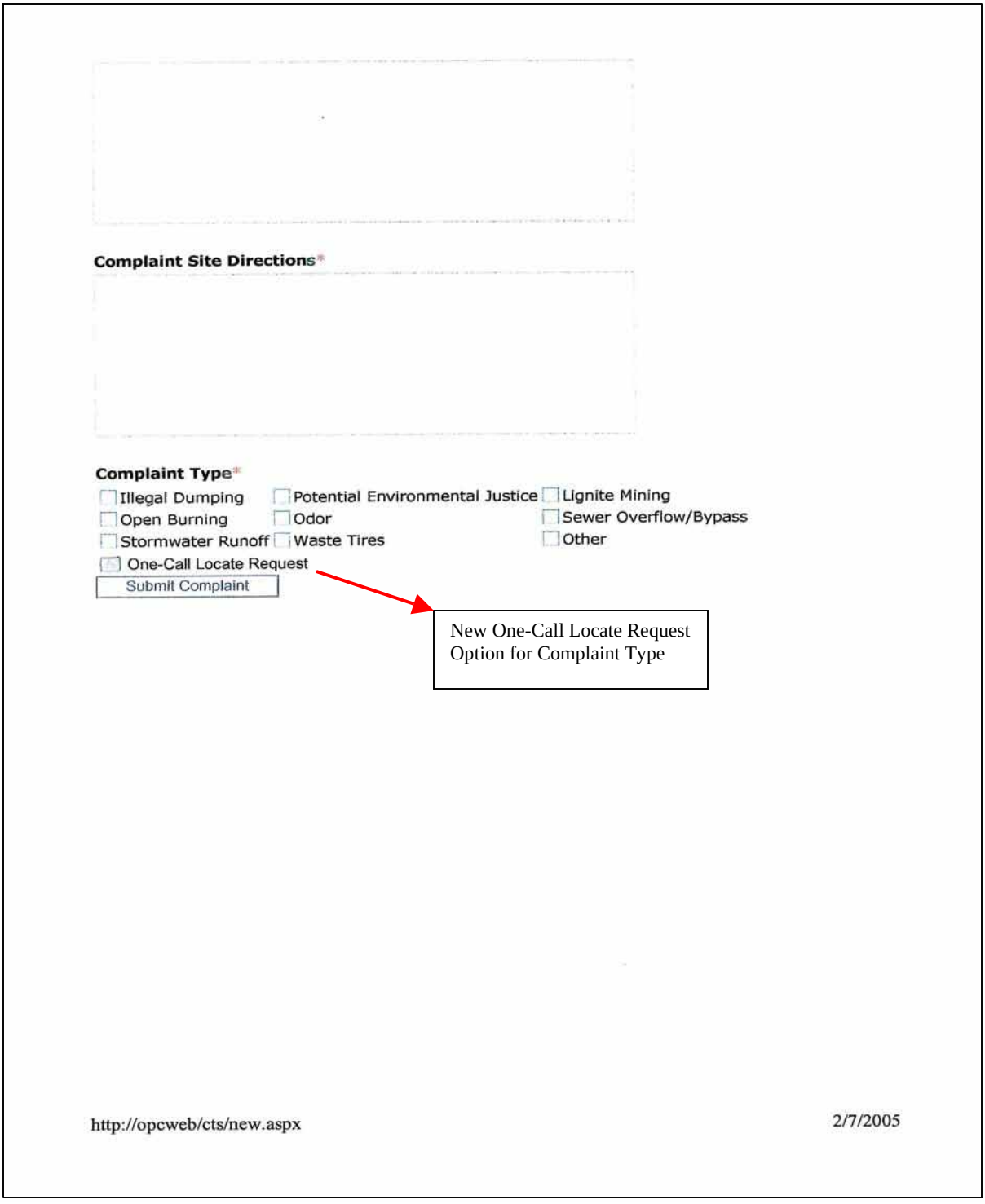
Telecom 2:

Telecom 3:

Email:

Complaint Description*

http://opcweb/cts/new.aspx 2/7/2005


Complaint Site Directions*
Complaint Type*
Illegal Dumping
Potential Environmental Justice
Lignite Mining
Open Burning
Odor
Sewer Overflow/Bypass
Stormwater Runoff
Waste Tires
Other
One-Call Locate Request
Submit Complaint
New One-Call Locate Request Option for Complaint Type
http://opcweb/cts/new.aspx
2/7/2005

APPENDIX D

MS CODE CHAPTER 13: REGULATION OF UNDERGROUND UTILITIES

REGULATION OF EXCAVATION

CHAPTER 13

Regulation of Excavations near Underground Utility Facilities

New Sections Added

Sec.

§ 77-13-1.Legislative intent.

Editor's Note-

§ 77-13-3. Definitions.

The words defined in this section shall have the following meanings when found in Sections 77-13-1 through 77-13-17:

(a) "Excavate or excavation" shall mean any operation in which earth, rock or other material or mass of material on or below the ground is moved or otherwise displaced by any means, except: (i) the tilling of the soil less than twenty-four (24) inches in depth for agricultural purposes; or (ii) an operation in which earth, rock or other material or mass of material on or below the ground is moved or otherwise displaced to a depth of less than twelve (12) inches on private property by the property owner without the use of mechanical excavating equipment; or (iii) an operation in which earth, rock or other material or mass of material on or below the ground is moved or otherwise displaced without the use of mechanical excavating equipment to a depth of less than twelve (12) inches on private property by an excavator who is not the property owner, except when such excavation is in a clearly marked underground facility right of way. The term "excavate" shall include, but not be limited to, the operations of demolition, blasting, grading, land leveling, trenching, digging, ditching, drilling, augering, tunneling, scraping, cable or pipe plowing, driving, jacking, wrecking, razing, rending, moving or removing any structure or other material or mass of material on or below the ground.

(b) "Utility" shall mean any person who supplies, distributes or transports by means of underground utility lines or underground facilities any of the following materials or services: gas, mixture of gases, petroleum, petroleum products or hazardous, toxic, flammable or corrosive liquids, electricity, telecommunications (including fiber optics), sewage, drainage, water, steam or other substances.

(c) "Underground utility lines" shall mean underground or buried cable, conduit pipes and related facilities for transportation and delivery of electricity, telecommunications (including fiber

optics), water, sewage, gas, mixtures of gases, petroleum, petroleum products or hazardous, flammable, toxic or corrosive liquids.

(d) "Underground facility" shall mean any underground utility lines and other items which shall be buried or placed below ground or submerged for use in connection with underground utility lines and including but not be limited to pipes, sewers, conduits, cables, valves, lines, wires, manholes, vaults, attachments, and those portions of poles below the ground.

(e) "Person" shall mean any individual, firm, partnership, association, trustee, receiver, assignee, corporation, utility, joint venture, municipality, state governmental unit, subdivision or instrumentality of the state, or any legal representative thereof

(f) "Damage" shall mean the substantial weakening of structural or lateral support of underground utility lines and underground facilities, penetration or destruction of any protective coating, housing or other protective devices of an underground utility line or underground facility, and the partial or complete severance of any underground utility line or underground facility, but does not include any operator's abandoned facility.

(g) "Operator" shall mean any individual who owns or operates a utility.

(h) "Working day" shall mean a twenty-four-hour period commencing from the time of receipt by Mississippi One-Call System, Inc., or the nonmember operator of the notification in accordance with this act, excluding Saturdays, Sundays and legal holidays.

(i) "Mechanical excavating equipment" shall mean all equipment powered by any motor, engine, or hydraulic or pneumatic device used for excavating and shall include but not be limited to trenchers, bulldozers, backhoes, power shovels, scrapers, drag lines, clam shells, augers, drills, cable and pipe plows and other plowing-in or pulling-in equipment.

(j) “Excavator” shall mean any person who engages directly in excavation.

(k) "Mark" shall mean the use of stakes, paint, or other clearly identifiable materials to show the field location of underground facilities in accordance with the current color code standard of the American Public Works Association, or the uncovering or exposing of underground facilities so that the excavator may readily see the location of same, or the pointing out to the excavator of certain aboveground facilities such as, but not limited to, manhole covers, valve boxes and pipe and cable risers, which indicate the location of underground facilities.

(l) "One-call association" shall mean a service through which a person can notify the operator(s) of underground facilities of plans to excavate and request marking of facilities, hereinafter referred to as Mississippi One-Call System, Inc.

(m) "Nonmember operator" shall mean any operator who elects not to join Mississippi One-Call System, Inc.

(n) "Member operator" shall mean any operator who is a member of Mississippi One-Call System, Inc.

(o) "Abandoned facility" shall mean any underground utility line or underground utility facilities no longer used in the conduct of the owner / operator's business and are not intended to be used in the future.

(p) "Emergency excavation" shall mean excavation at times of emergency involving danger to life, health or property or a customer service outage.

(q) "Approximate location" of underground utility lines or underground facilities shall mean information about an operator's underground utility lines or underground facilities which is provided to a person by an operator and must be accurate within eighteen (18) inches measured horizontally from the outside edge of each side such operator's facility, or a strip of land eighteen (18) inches either side of the operator's field mark, or the marked width of the facility or line plus eighteen (18) inches on each side of the marked width of the facility or line.

SOURCES: LAWS, 1997, ch. 483, § 1, eff from and after July 1, 1997.

Editor's Note-

Amendment Note- The **1997** amendment substantially revised this section.

§ 77-13-5. Excavator's investigation of site; notice to utility of planned excavation.

(1) In addition to complying with all other applicable regulations and requirements' of federal, state, county and municipal authorities, no person shall engage in excavation of any kind, before meeting the notification requirements of this chapter. Under this chapter the excavator shall:

(a) Inform himself/herself of the presence and location of any underground utility lines and underground facilities in or near the area where excavation is to be conducted;

(b) Plan and conduct the excavation to avoid or minimize interference with or damage to underground utility lines and underground facilities in or near the excavation area; maintain a clearance between any underground utility line or underground facility and the cutting edge or point of any mechanical excavating equipment, taking into account the known limit of control of such cutting edge or point, as may be reasonably necessary to avoid damage to such facility; and provide such support for underground utility lines or underground facilities in and near the excavation area, including during any backfilling operations, as may be reasonably necessary for the protection of such facilities.

(c) Except as provided in Section 77-13-11, provide not less than two (2) and not more than ten (10) working days' advance written, electronic or telephonic notice of the commencement, extent, location and duration of the excavation work to Mississippi One-Call System, Inc., and any nonmember operator(s) of any underground utility lines or underground facilities in and near the excavation area, so that Mississippi One-Call System, Inc., member operator(s) and any nonmember operator(s) may locate and mark the location of underground utility lines and underground facilities in the excavation area.

The written, electronic or telephonic notice required by this subparagraph (c) shall contain the name, address and telephone number of the person filing the notice of intent, the person responsible for the excavation, the starting date, anticipated duration, type of excavation to be conducted, the location of the proposed excavation and whether or not explosives are to used. (2)

The markings provided by member and nonmember operators shall only be valid for a period of ten (10) working days from the proposed starting date provided to the nonmember operator(s) or Mississippi One-Call System, Inc. The person responsible for the excavation project shall renew the notification with Mississippi One-Call and any nonmember operator(s) at least two (2) days prior to this expiration date and shall continue to renew such notification in the same manner throughout the duration of the excavation. Such renewal notice shall be valid for a period of ten (10) working days from the date of the expiration of the prior notification. (3) compliance with the notice requirements of this section shall not be required of: (a) persons plowing less than twenty-four (24) inches in depth for agricultural purposes; (b) persons who are moving or otherwise displacing, by hand, earth, rock or other material or mass of material on or below the ground at a depth of less than twelve (12) inches on property they own; and (c) persons, other than the property owner, who are moving or otherwise displacing, by hand, earth, rock or other material or mass of material on or below the ground at a depth of less than twelve (12) inches, except when such excavation is in a clearly marked underground facility right of way.

SOURCES: Laws, 1997, ch. 483, § 2, eff from and after July 1, 1997.

Editor's Note-

Amendment Note- The **1997** amendment substantially revised this section.

§ 77-13-7. Notification of damaged lines.

(1) Each person responsible for any excavation that results in damage to an underground utility line or underground facility, immediately upon discovery of such damage, shall notify Mississippi One-Call System, Inc., or notify all operators of such damaged line or facility of the location of the damage and shall allow the operator reasonable time to accomplish any necessary repairs before completing the excavation in the immediate area of the damage to such line or facility.

(2) Each person responsible for any excavation that results in damage to underground pipeline or underground facility permitting the escape of any hazardous, flammable, toxic or corrosive gas or liquid shall, immediately upon discovery of such damage, notify Mississippi One-Call System, Inc., and the operator and take other action as may reasonably be necessary to protect persons and property and to minimize the hazards, until arrival of the operator's personnel and police or fire departments. (3) Except where the excavator has fully complied with the provisions of Section 77-13-5 and subsections (1) and (2) of this section, each person responsible for excavation that results in damage to an underground line or underground facility, except the property owner, unless the property owner is the excavator, shall be responsible for any and all costs and expenses incurred by the operator in restoring, correcting, repairing and replacing the damaged line or facility.

SOURCES: Laws, 1997, ch. 483, § 3, eff from and after July 1, 1997.

Editor's Note-

Amendment Note- The **1997** amendment substantially revised this section.

§ 77-13-9. Marking location of underground facilities; timeliness.

(1) Every person owning or operating underground utility lines or underground facilities shall, upon receiving advance notice of the commencement of excavation, in accordance with Section 77-13-7, make an investigation, within two (2) working days from the time notice is provided in accordance with this act to the nonmember operator(s) or Mississippi One-Call System, Inc., to determine the approximate location of its underground utility lines and underground facilities in the area of the proposed excavation, and shall either: (a) mark the approximate location of underground utility lines and underground facilities in or near the area of the excavation, so as to enable the person engaged in excavation work to locate the lines and facilities in advance of and during the excavation work; or (b) advise in writing or by telephone or electronic means that it has no underground utility lines or underground facilities in the excavation area.

(2) In lieu of such marking, the operator may request to be present at the site upon commencement of the excavation, so long as the operator complies within two (2) working days of the receipt of the notice.

(3) When an excavator, upon arriving at an excavation site, sees evidence of unmarked underground utility lines or underground facilities or encounters an unmarked underground utility line or underground facility on an excavation site after excavation has commenced where notice of intent has been made in accordance with the provisions of this act, that excavator must immediately contact Mississippi One-Call System, Inc., and the nonmember operator(s). All operator(s) thus notified must contact the excavator within four (4) hours and inform the excavator of any of their known underground facilities, active or abandoned, at the site of the excavation.

(4) When marking the approximate location of the facilities, the operator shall follow the color code designated and described herein, unless otherwise provided for by specific administrative rule or regulation promulgated pursuant to this act, namely:

GROUP IDENTIFYING COLOR: UTILITY OR TYPE OF FACILITY

SAFETY RED: Electric

HIGH VISIBILITY SAFETY YELLOW: Petroleum Product / Hazardous Flammable/Corrosive/Toxic Materials, Product and Steam Lines, Gas or Gaseous Material.

SAFETY ALERT ORANGE: Telecommunications (including fiber optic) and CATV

SAFETY PRECAUTION BLUE: Water and Irrigation Slurry Lines

SAFETY GREEN: Sewer and Drain Lines

HIGH VISIBILITY PINK: Temporary Survey Markings

WHITE: Proposed Excavation

SOURCES: Laws, 1997, ch. 483, § 4, eff from and after July 1, 1997.

Editor's Note-

Amendment Note- The **1997** amendment substantially revised this section.

§ 77-13-11. Exceptions to advance notice requirement.

1. The advance notice provisions of this chapter shall not apply to any person making an excavation at times of emergency involving danger to life, health or property or a customer service outage. However, every person who shall engage in such emergency excavation shall take all necessary and reasonable precautions to avoid or minimize interference with or damage to existing underground utility lines and underground facilities in and near the excavation area, and shall notify as promptly as reasonably possible the operators of underground utility lines or underground facilities in and near the emergency excavation area specifically designating whether such excavation is an emergency excavation as defined herein. In the event of damage to or dislocation of any underground utility lines or underground facilities caused by any such emergency excavation work, the person responsible for the excavation shall immediately notify the operator of the damaged or dislocated underground facilities of the damage or dislocation.

2. An imminent danger to life, health, property or customer service exists whenever there is a substantial likelihood that injury, loss of life, health or customer services, or substantial property loss could result before the person responsible for the excavation or demolition can fully comply with the notification and response procedures required in Sections 77-13-7 and 77-13-17.

SOURCES: Laws, 1997, ch. 483, § 5, eff from and after July 1, 1997.

Editor's Note-

Amendment Note- The **1997** amendment substantially revised this section.

§ 77-13-13. Advance notice of relieving excavator of certain liabilities.

The act of giving notice in accordance with Section 77-13-5 shall relieve the notifying party of all liability to a utility should such notice be ignored or the information provided by the utility subsequent to said notice be materially inaccurate; provided, however, the act of giving advance notice and/or obtaining information as required by this Act shall not relieve any person making excavations from doing so in a careful and prudent manner, nor shall it relieve such person from liability for any injury or damage proximately resulting from his/her negligence.

Editor's Note-

§ 77-13-15. Notice to one-call system effective as to all members.

In any area where a Mississippi One-Call System, Inc., is operative, notification to all members of Mississippi One-Call System, Inc., may be effected by giving notice to Mississippi One-Call System, Inc., in writing as set forth in Section 77-13-5, or by telephone, provided that the same information required by Section 77-13-5 is furnished by the person or public agency responsible for the excavation activities.

SOURCES: Laws, 1997, ch. 483, § 6, eff from and after July 1, 1997.

Editor's Note-

Amendment Note- The **1997** amendment substantially revised this section.

§ 77-13-17. Operator responsibilities.

(1) Any operator who fails to follow, abide by or comply with this chapter shall be responsible for the cost or expense the excavator shall incur as a direct result of the failure of the operator to follow, abide by, or comply with the provisions of this chapter.

(2) Operators who have underground utility lines or underground facilities within this state shall either (a) participate in Mississippi One-Call System, Inc., or (b) provide an in-house program which meets the operational requirements of receiving those excavation notifications mandated by this act.

(3) Nonmember operators of underground pipeline facilities must notify the public and known excavators of the availability and use of its in-house notification program.

(4) The person giving notice of the intent to excavate to Mississippi One-Call System, Inc., or to a nonmember operator shall be furnished an individual reference file number for each notification and, upon request, shall be furnished the names of the operators to whom the notification will be transmitted.

(5) An adequate record of all notifications shall be maintained by Mississippi One-Call System, Inc., and nonmember operators in order to document timely compliance with this act. These records shall be retained for a period of not less than four (4) years and shall be made available at a reasonable cost upon proper and adequate advance request.

(6) The services of Mississippi One-Call System, Inc., acting on behalf of member operators will be provided on working days as defined in Section 77-13-3(h) at least between the hours of 7:30 a.m. and 5:00 p.m. A nonmember operator will supply the same services during its normal business hours.

(7) Mississippi One-Call System, Inc., and nonmember operators will voice-record the notification telephone calls and after-hours calls will at least reach a voice recording which explains emergency notification procedures.

(8) All member operators shall provide Mississippi One-Call System, Inc., the following information:

a. A list of counties, cities and towns in which the operator has Underground utility lines or underground facilities in each county.

b. The townships, ranges, sections and quarter sections in each county in which the operator has underground utility lines or underground facilities or for other reasons wish to receive notification of proposed excavation.

c. An update on an annual basis of each operator’s underground utility lines or underground facilities for the State of Mississippi.

SOURCES: Laws, 1997, ch. 483, § 7, eff from and after July 1, 1997.

§ 77-13-19. Enforcement; injunctions.

In addition to any other rights and remedies which a person may have, any person shall have the right to resort to and apply for injunctive relief, both temporary and permanent, in any court of competent jurisdiction to enforce compliance with the provisions of this statue and to restrain and prevent violations and threatened violations thereof.

SOURCES: Laws, 1997, ch. 483, § 8, eff from and after July 1, 1997.

SOURCES: Laws, 1997, ch. 483, § 9, eff from and after July 1, 1997.

APPENDIX E

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